Glossary

10th Percentile	A low end statistic based on ranking a data set from the minimum to the maximum value. The 10th percentile defines the value for which 10% of the ranked data set is less than the statistic and 90% of the data set is greater than the statistic. Used in this study to define "worst-case" conditions for evaluation of "before and after" trends of dissolved oxygen.
90th Percentile	A high end statistic based on ranking a data set from the minimum to the maximum value. The 90th percentile defines the value for which 90% of the ranked data set is less the statistic and 10% of the data set is greater than the statistic. Used in this study to define "worst-case" conditions for evaluation of "before and after" trends of BOD5.
Activated sludge	A secondary wastewater treatment process that removes organic matter by mixing air and recycled sludge bacteria with sewage to promote decomposition.
Advanced primary treatment	Waste treatment process that incorporates primary sedimentation of suspended solids with chemical addition and flocculation to increase the overall removal of organic solids. Advanced primary treatment typically achieves about 50% removal of suspended solids and BOD.
Advanced secondary treatment	Biological or chemical treatment processes added to a secondary treatment plant including a conventional activated sludge to increase the removal of solids and BOD. Typical removal rates for advanced secondary plants are on the order of 90% removal of solids and BOD.
Advanced wastewater treatment (AWT)	Wastewater treatment process that includes combinations of physical and chemical operation units designed to remove nutrients, toxic substances, or other pollutants. Advanced, or tertiary, treatment processes treat effluent from secondary treatment facilities using processes such as nutrient removal (nitrification, denitrification), filtration, or carbon adsorption. Tertiary treatment plants typically achieve about 95% removal of solids and BOD in addition to removal of nutrients or other materials.
Aerobic	Environmental conditions characterized by the presence of dissolved oxygen; used to describe biological or chemical processes that occur in the presence of oxygen.
Algae	Any organisms of a group of chiefly aquatic microscopic nonvascular plants; most algae have chlorophyll as the primary pigment for carbon fixation. As primary producers, algae serve as the base of the aquatic food web, providing food for zooplankton and fish resources. An overabundance of algae in natural waters is known as eutrophication.

Algal bloom	Rapidly occurring growth and accumulation of algae within a body of water. It usually results from excessive nutrient loading and/or sluggish circulation regime with a long residence time. Persistent and frequent bloom can result in low oxygen conditions.
Ambient water quality	Natural concentration of water quality constituents prior to mixing of either point or nonpoint source load of contaminants. Reference ambient concentration is used to indicate the concentration of a chemical that will not cause adverse impact to human health.
Ammonia	Inorganic form of nitrogen; product of hydrolysis of organic nitrogen and denitrification. Ammonia is preferentially used by phytoplankton over nitrate for uptake of inorganic nitrogen.
Ammonia toxicity	Under specific conditions of temperature and pH, the un-ionized component of ammonia can be toxic to aquatic life. The un-ionized component of ammonia increases with pH and temperature.
Anadromous	Characteristic of fish that live in the ocean but spawn in freshwater. Example: Salmon and steelhead.
Anaerobic	Environmental condition characterized by zero oxygen levels. Describes biological and chemical processes that occur in the absence of oxygen.
Anoxic	Aquatic environmental conditions containing zero or little dissolved oxygen. See also anaerobic.
Anthropogenic	Pertains to the [environmental] influence of human activities.
Assimilative capacity	The amount of contaminant load (expressed as mass per unit time) that can be discharged to a specific stream or river without exceeding water quality standards or criteria. Assimilative capacity is used to define the ability of a waterbody to naturally absorb and use waste matter and organic materials without impairing water quality or harming aquatic life.
Bacterial decomposition	Breakdown by oxidation, or decay, of organic matter by heterotrophic bacteria. Bacteria use the organic carbon in organic matter as the energy source for cell synthesis.
Base flow	Sustained, low flow discharge rate in a stream derived from groundwater discharge into the stream channel. During extended periods of low precipitation, baseflow may account for most, or all, of the streamflow.
Benthic	Refers to material, especially sediment, at the bottom of an aquatic ecosystem. It can be used to describe the organisms that live on, or in, the bottom of a waterbody.
Biochemical oxygen demand (BOD)	The amount of oxygen per unit volume of water required to bacterially or chemically oxidize (stabilize) the oxidizable matter in water. Biochemical oxygen demand measurements are usually conducted over specific time intervals (5,10,20,30 days). The term BOD_5 generally refers to standard 5-day BOD test.

Carbonaceous	Pertaining to or containing organic carbon derived from plant and animal residues.
Carbonaceous BOD	Biochemical oxygen demand accounted for by decomposition of organic carbon derived from plant and animal residues.
Chlorophyll	A group of green photosynthetic pigments that occur primarily in the chloroplast of plant cells. The amount of chlorophyll-a, a specific pigment, is frequently used as a measure of algal biomass in natural waters.
Coliform bacteria	A group of bacteria that normally live within the intestines of mammals, including humans. Coliform bacteria are used as an indicator of the presence of sewage in natural waters.
Combined sewer overflows (CSOs)	A combined sewer carries both wastewater and stormwater runoff. CSOs discharged to receiving water can result in contamination problems that may prevent the attainment of water quality standards.
Commercial water use	Water used for motels, hotels, restaurants, office buildings, and other commercial operations.
Concentration	Mass amount of a substance or material in a given unit volume of solution. Usually measured in milligrams per liter (mg/l) or parts per million (ppm).
Confluence	The physical location where a lower order stream or river flows into a higher order stream or river as a tributary. *See mouth.*
Constituent	A chemical or biological substance in water, sediments, or biota that can be measured by an analytical method (e.g., nitrate-N, organic carbon, or chlorophyll).
Construction Grants Program	Federal funding authorized by amendments (1956 through 1987) to 1948 Federal Water Pollution Control Act to provide technical assistance and construction money to aid municipalities in building and upgrading sewerage collection systems and municipal wastewater treatment plants. After 1972 amendments, $61.1 billion (current year dollars) in federal funding provided under Clean Water Act to upgrade municipal wastewater facilities to a minimum of secondary treatment.
Consumptive use	That part of water withdrawn that is evaporated, transpired, or incorporated into a manufactured product, or consumed by humans or animals, or otherwise removed from the immediate waterbody environment.
Contamination	Act of polluting or making impure; any indication of chemical, sediment, or biological impurities.
Conventional pollutants	As specified under the Clean Water Act, conventional contaminants include suspended solids, coliform bacteria, biochemical oxygen demand, pH, and oil and grease.

Decay	Gradual decrease in the amount of a given substance in a given system due to various loss/sink processes including chemical and biological transformation, dissipation to other environmental media, or deposition into storage areas.
Decomposition	Metabolic breakdown of organic materials; the by-products formation releases energy and simple organics and inorganic compounds. (see also respiration)
Denitrification	Describes the decomposition of ammonia compounds, nitrites, and nitrates (by bacteria) that results in the eventual release of nitrogen gas into the atmosphere.
Dilution	Addition of a volume of less concentrated liquid (water) that results in a decrease in the original concentration.
Discharge	The volume of water that passes a given point within a given period of time. It is an all-inclusive outflow term, describing a variety of flows such as from a pipe to a stream, or from a stream to a lake or ocean.
Discharge permits (NPDES)	A permit issued by the U.S. EPA or a state regulatory agency that sets specific limits on the type and amount of pollutants that a municipality or industry can discharge to a receiving water; it also includes a compliance schedule for achieving those limits. It is called the NPDES because the permit process was established under the National Pollutant Discharge Elimination System, under provisions of the Federal Clean Water Act.
Dispersion	The turbulent mixing and spreading of chemical or biological constituents, including pollutants, in various directions from a point source, at varying velocities depending on the differential instream flow characteristics.
Dissolved oxygen (DO)	The amount of oxygen gas that is dissolved in water. It also refers to a measure of the amount of oxygen available for biochemical activity in water body, and as indicator of the quality of that water.
Diurnal	Actions or processes having a period or a cycle of approximately one tidal-day or are completed within a 24-hour period and which recur every 24 hours.
Domestic wastewater	Also called sanitary wastewater, consists of wastewater discharged from residences and from commercial, institutional, and similar facilities.
Domestic water use	Water used for household purposes such as drinking, food preparation, bathing, washing clothes and dishes, watering lawns and gardens, flushing toilets etc. Also called residential water use.
Drainage basin	A part of the land area enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into a receiving water. Also referred to as watershed, river basin, or hydrologic unit.

Dynamic model	A mathematical formulation describing the physical behavior of a system or a process and its temporal variability.
Dynamic simulation	Modeling of the behavior of physical, chemical, and/or biological phenomena and their variation over time.
Ecosystem	An interactive system that includes the organisms of a natural community association together with their abiotic physical, chemical, and geochemical environment.
Effluent	Municipal sewage or industrial liquid waste (untreated, partially treated, or completely treated) that flows out of a treatment plant, septic system, pipe, etc.
Enforcement conferences	Joint State-Federal water pollution conferences convened by U.S. Public Health Service under authority of 1956 amendments to the 1948 Federal Water Pollution Control Act. Federal regulatory authority restricted to enforcement of water pollution problems only in interstate waters because of the Commerce clause of the U.S. Constitution. Fifty-one enforcement conferences were convened from 1957-1972.
Estuary	Brackish-water areas influenced by the ocean tides where the mouth of the river meets the sea.
Eutrophication	Enrichment of an aquatic ecosystem with nutrients (nitrogen, phosphorusnitrates, phosphates) that accelerate biological productivity (growth of algae, periphyton and macrophytes/weeds) and an undesirable accumulation of plant algal biomass.
Factor of Safety	Coefficient used to account for uncertainties in representing, simulating, or designing a system.
Fecal coliform bacteria	Coliform bacteria that are present in the intestines or feces of warm-blooded animals including humans. They are often used as indicators of the sanitary quality of water. See Coliform bacteria.
Flocculation	The process by which suspended colloidal or very fine particles are assembled into larger masses or flocules that eventually settle out of suspension.
Flushing characteristics	Measure of the displacement of water from a riverine or estuarine system as controlled by the combined actions of freshwater inflow and tidal mixing and exchange.
Frequency analysis	A numerical determination of the distribution of values for a parameter within a data set. See 10th percentile, median and 90th percentile.
Freshwater	Water that contains less than 1000 mg/L of dissolved solids. Water that contains more than 500 mg/L of dissolved solids is undesirable for drinking water and many industrial uses.

Gaging station	A specific location on a stream, river, canal, lake or reservoir where systematic measurements of hydrologic data such as stage height and streamflow are collected. The USGS maintains and operates a network of stream gaging stations to collect hydrologic data for many streams and rivers. Historical streamflow and stage height data is available from the USGS streamflow database (www.waterdata.usgs.gov/nwis-w). Earliest records are available from the late 19th century for some rivers.
"Grey" literature	Unpublished technical reports and memoranda, data reports, or other documents prepared by academic researchers, Federal, state or local agencies or other institutions and organizations. Typically limited distribution makes it difficult to obtain except from agency or institutional sources.
Hydrologic Accounting Unit	Geographical sub-division of watersheds within each Hydrologic Sub-Region. There are a total of 352 Accounting Units in the United States with 334 Accounting Units located in the 48 states. Accounting Units are identified by a 6-digit code where the first 2-digits identify the Hydrologic Sub-region as the larger hydrologic units. Example: 070102 is the Accounting Unit for the Platte-Spunk basin of the Upper Mississippi River basin.
Hydrologic Catalog Unit	Geographical sub-division of watersheds within each Hydrologic Accounting Unit. There are a total of 2150 Catalog Units in the United States with 2111 Catalog Units located in the 48 states. Catalog Units are identified by an 8-digit code where the first 2-digits identify the Hydrologic Accounting Unit. Example: 07010206 is the Catalog Unit for the Twin Cities area of the Upper Mississippi River.
Hydrologic cycle	The representation of the cycle of water on earth based on all hydrologic processes and the interactions of water between the atmosphere, surface waters, polar ice, glaciers, and groundwater.
Hydrologic Region	Largest geographical sub-division of the United States into a hierarchal succession of hydrologic units based on drainage area. There are a total of 21 Hydrologic Regions in the United States with 18 Hydrologic Regions located within the 48 states. Hydrologic regions are identified by a 2-digit numerical code from 01-21. Example: 07 is the Hydrologic Region for the Upper Mississippi River basin.
Hydrologic Sub-Region	Geographical sub-division of watersheds within each Hydrologic Region. There are a total of 222 Sub-Regions in the United States with 204 Sub-Regions located in the 48 states. Sub-regions are identified by a 4-digit code with the first 2-digits used to identify the larger Hydrologic Region. Example: 0701 is the Hydrologic Sub-region for the Mississippi Headwaters of the Upper Mississippi River basin.
In situ	Latin word for "in place"; in situ measurements consist of measurement of component or processes in a full-scale system or a field rather than in a laboratory.

Industrial water use	Water used for industrial purposes such as fabricating, processing, washing and cooling. Industries that use water include steel, chemical and allied products, paper and allied products, mining and petroleum refining.
Influent	Water volume flow rate or mass loading of a pollutant or other constituent into a water body or wastewater treatment plant.
Inorganic	Pertaining to matter that is neither living nor immediately derived from living matter.
Loading, Load, Loading rate	The total amount of material (pollutants) entering the system from one or multiple sources; measured as a rate in weight (mass) per unit time.
Low-flow (7Q10)	Low-flow (7Q10) is the 7-day average low flow occurring once in 10 years; this probability-based statistic is used in determining stream design flow conditions and for evaluating the water quality impact of effluent discharge limits.
Major river basin	alternative terminology for Hydrologic Region.
Margin of Safety (MOS)	A required component of the TMDL that accounts for the uncertainty about the relationship between the pollutant load and the quality of the receiving waterbody.
Mass balance	An equation that accounts for the flux of mass going into a defined area and the flux of mass leaving the defined area. The flux in must equal the flux out to achieve a mass balance.
Mathematical model	A system of mathematical expressions that describe the spatial and temporal distribution of water quality constituents resulting from fluid transport and the one, or more, individual processes and interactions within some prototype aquatic ecosystem. A mathematical water quality model is used as the basis for waste load allocation evaluations.
Mean	The numerical average of a set of observations; computed as the sum of the observations divided by the number of observations in the data set.
Median (50th Percentile)	A middle statistic based on ranking a data set from the minimum to the maximum value. The median value divides the data set into so that one-half of the values are lower than the median and one-half of the values are greater than the median. The median is also defined as the 50th percentile value.
Milligrams per liter (mg/L)	A unit of measurement expressing the concentration of a constituent in solution as the weight (mass) of solute (1 milligram) per unit volume (1 liter) of water; equivalent to 1 part per million (ppm) for a water density ~1 g cm-3. 1 mg/L = 1000 ug/L; 1 g/L = 1000 mg/L.

Million gallons per day (mgd)	Rate of water volume discharge representing a volume of 1 million gallons of water passing across a given location in a time interval of 1 day. A flow rate of 1 mgd = 1.54723 cubic feet per second (cfs) = 0.04381 cubic meters per second (cms).
Mineralization	The transformation of organic matter into a mineral or an inorganic compound.
Mixing characteristics	Refers to the tendency for natural waters to blend; i.e. for dissolved and particulate substances to disperse into adjacent waters.
Most probable number (mpn)	Measure of concentration, or abundance, of total and fecal coliform bacteria based on incubation results and a statistical interpretation of the results.
Municipal wastewater inventory	US Public Health Service compilations of inventory of municipal wastewater plants, population served and influent flow by different categories of municipal wastewater treatment facilities. Inventories compiled in 1950, 1962 and 1968.
N/P ratio	The ratio of nitrogen to phosphorus in an aquatic system. The ratio is used as an indicator of the nutrient limiting conditions for algal growth; also used as indicator for the analysis of trophic levels of receiving waters.
Natural waters	Flowing waterbody within a physical system that has developed without human intervention, in which natural processes continue to take place; streams, rivers, lakes, bays, estuaries and coastal and open ocean are examples of natural waters.
Needs Survey	USEPA Clean Water Needs Surveys (CWNS) compiled from 1976 through 1996 at 2 to 4 year intervals. Needs Surveys document inventory of wastewater plants, population served, influent flow and effluent load of BOD5 and TSS by 6 different categories of municipal wastewater treatment facilities. Information is compiled for existing conditions (e.g., 1996) and 20-year projections (e.g., 2016).
Nitrate (NO_3) and Nitrite (NO_2)	Oxidized nitrogen species. Nitrate is the form of nitrogen used by aquatic plants for photosynthesis.
Nitrification	Biologically mediated process of the oxidation of ammonium salts to nitrites (via Nitrosomonas bacteria) and the further oxidation of nitrite to nitrate via Nitrobacter bacteria.
Nitrifier organisms	Bacterial organisms that mediate the biochemical oxidative processes of nitrification.
Nitrobacter	Type of bacteria responsible for the conversion of nitrite to nitrate.
Nitrogenous BOD (NBOD)	Refers to the biochemical oxygen demand associated with the oxidation of ammonia to nitrite and nitrate.
Nitrosomonas	Type of bacteria responsible for the oxidation of ammonia to the intermediate product nitrite.

Nonpoint source	Pollution that is not released through pipes but rather originates from multiple sources over a relatively large drainage area. Nonpoint sources can be divided into source activities related to either land or water use including failing septic tanks, improper animal-keeping practices, forest practices, and urban and rural runoff from a drainage basin.
Numerical model	Models that approximate a solution of governing partial differential equations which describe a natural process. The approximation uses a numerical discretization of the space and time components of the system or process.
Nutrient	A primary element necessary for the growth of living organisms. Carbon dioxide, nitrogen, and phosphorus, for example, are required nutrients for phytoplankton (algae) growth.
Organic matter	The organic fraction that includes plant and animal residue at various stages of decomposition, cells and tissues of soil organisms, and substances synthesized by the soil population. Commonly determined as the amount of organic material contained in a soil or water sample.
Organic nitrogen	Organic form of nitrogen bound to organic matter.
Outfall	Location point where wastewater or stormwater flows from a conduit, stream, or drainage ditch into natural waters.
Oxidation	The chemical union of oxygen with metals or organic compounds accompanied by a removal of hydrogen or another atom. It is an important factor for soil formation and permits the release of energy from cellular fuels.
Oxygen demand	Measure of the dissolved oxygen used by a system (microorganisms) and or chemical compounds in the oxidation of organic matter. See also biochemical oxygen demand.
Oxygen depletion	Deficit of dissolved oxygen in a natural waters system due to oxidation of natural and anthropogenic organic matter.
Oxygen sag	Description of characteristic spatial trend of the concentration of dissolved oxygen in a stream or river downstream of high loading rate of oxygen-demanding materials from tributaries, municipal or industrial wastewater dischargers, or urban stormwater and combined sewer overflow systems.
Oxygen saturation	The maximum amount of oxygen gas that can be dissolved in natural waters by transfer of oxygen from the atmosphere across the air-water interface. The concentration of oxygen saturation is greatly influenced by water temperature, salinity or chlorides concentration and elevation above mean sea level, and other water characteristics.
Parameters	Constituents measured in water quality monitoring programs. Examples: dissolved oxygen, BOD_5, TSS, water temperature.
Parts per million (ppm)	Measure of concentration of 1 part solute to 1 million parts water (by weight). *See milligrams per liter.*

Parts per thousand (ppt)	Measure of concentration of 1 part solute to 1000 parts water (by weight). *See milligrams per liter.*
Pathogens	a microorganism capable of producing disease. Pathogens are of great concern to protect human health relative to drinking water, swimming beaches and shellfish beds.
Per-capita use	The quantity of water used per person per day averaged over a time interval of 1 day; expressed as gallons per capita per day (gpcd).
pH	A measure of acidity indicated by the logarithm of the reciprocal of the hydrogen ion concentration (activity) of a solution. pH values less than 7 are acidic; values greater than 7 are basic; pH of 7 is neutral. pH of natural waters typically ranges from ~6-8.
Phosphorus	A nutrient essential for plant growth that can play a key role in stimulating the growth of aquatic plants in streams, rivers and lakes.
Photosynthesis	The biochemical synthesis of carbohydrate based organic compounds from water and carbon dioxide using light energy in the presence of chlorophyll. Photosynthesis occurs in all plants, including aquatic organisms such as algae and macrophytes. Photosynthesis also occurs in primitive bacteria such as blue-green algae.
Phytoplankton	A group of generally unicellular microscopic plants characterized by passive drifting within the water column. See Algae.
Plankton	Group of generally microscopic plants and animals passively floating, drifting or swimming weakly. Plankton include the phytoplankton (plants) and zooplankton (animals).
Point source	Pollutant loads discharged at a specific location from pipes, outfalls, and conveyance channels from either municipal wastewater treatment plants or industrial waste treatment facilities. Point sources can also include pollutant loads contributed by urban stormwater systems or tributaries to the main receiving water stream or river.
Pollutant	A contaminant in a concentration or amount that adversely alters the physical, chemical, or biological properties of a natural environment. The term include pathogens, toxic metals, carcinogens, oxygen demanding substances, or other harmful substances.
Pretreatment	The treatment of wastewater to remove or reduce contaminants prior to discharge into another municipal treatment system or a receiving water.
Primary productivity	A measure of the rate at which new organic matter is formed and accumulated through photosynthesis and chemosynthesis activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plant (carbon method)

Primary treatment plant	Wastewater treatment process where solids are removed from raw sewage primarily by physical settling. The process typically removes about 25-35% of solids and related organic matter (BOD5).
Publicly Owned Treatment Works (POTW)	Municipal wastewater treatment plant owned and operated by a public governmental entity such as a town or city.
Public-supply withdrawals	Water withdrawn from surface water or groundwater by public or private water suppliers for use within a community. Water is used for domestic, commercial, industrial and public water uses such as fire fighting.
Range	Statistical measure expressing the difference between the minimum and maximum values recorded for a given constituent in time and space.
Raw sewage	Untreated municipal sewage.
Reach (of a river)	A linear or longitudinal section of a stream or river defined by the upstream and downstream locations of lower stream order tributaries flowing into a higher stream.
Reach File Version 1 (RF1)	US EPA hydrologic database designed to define the downstream hydraulic routing of a connecting network of streams, rivers, lakes and reservoirs, bays and tidal waters. Version 1 of the Reach File (Rf1) includes a network of 64,902 Rf1 reaches that includes 632,552 miles of waterbodies in the 48 states. Rf1 reaches are indexed using an 11-digit code.
Reach File Version 3	US EPA hydrologic database that defines the downstream hydraulic routing of a more complex connecting network of streams, rivers, lakes and reservoirs, bays and tidal waters than the Rf1 database. Version 3 of the Reach File (Rf3) includes a network of 1,821,245 Rf3 reaches that includes about 3.5 million miles of waterbodies in the 48 states. Rf3 reaches are indexed using a 17-digit code.
Reaction rate coefficient	Coefficient describing the rate of transformation of a substance in an environmental medium characterized by a set of physical, chemical, and biological conditions such as temperature and dissolved oxygen level.
Reaeration	The net flux of oxygen transferred occurring from the atmosphere to a body of water with a free surface.
Removal efficiency	A measure of how much of a pollutant is removed from raw sewage prior to discharge into a receiving water after completion of waste-water treatment processes. Expressed as percentage calculated as Removal % = [(influent - effluent) /(influent)] x 100.
Receiving waters	Creeks, streams, rivers, lakes, estuaries, groundwater formations, or other bodies of water into which surface water and/or treated or untreated wastewater are discharged, either naturally or in man-made systems.
Residential water use	*See domestic water use.*

Respiration	Biochemical process by means of which cellular fuels are oxidized with the aid of oxygen to permit the release of the energy required to sustain life; during respiration oxygen is consumed and carbon dioxide is released.
River basin	*see watershed*
Rotating biological contactors (RBCs)	A wastewater treatment process consisting of a series of closely spaced rotating circular disks of polystyrene or polyvinyl chloride. Attached biological growth is promoted on the surface of the disks. The rotation of the disks allows contact with the wastewater and the atmosphere to enhance oxygenation.
Salinity	The total amount of dissolved salts, measured by weight as parts per thousand (ppt). Salinity concentrations range from ~0.5-1 ppt for tidal fresh waters; ~20-25 ppt for estuarine waters; ~ 30 ppt for coastal waters to ~35 ppt for the open ocean.
SAV	Submersed or submerged aquatic vegetation. SAV describes rooted aquatic plants that grow in shallow clear water.
Secchi depth	A measure of the light penetration into the water column. Light penetration is influenced by turbidity.
Secondary treatment plant	Waste treatment process where oxygen-demanding organic materials (BOD) are removed by bacterial oxidation of the waste to carbon dioxide and water. Bacterial synthesis of wastewater is enhanced by injection of oxygen.
Sediment	Particulate organic and inorganic matter that accumulates in a loose, unconsolidated form on the bottom of natural waters.
Sediment oxygen demand (SOD)	The solids discharged to a receiving water are partly organics, and upon settling to the bottom, they decompose anaerobically as well as aerobically, depending on conditions. The amount of oxygen consumed in the sediment bed during aerobic decomposition of detrital organic carbon deposited on the bottom of a waterbody; represents another dissolved oxygen loss/sink for the waterbody.
Significance level	A statistical measure of the certainty that can be associated with the results of a statistical analysis.
Stabilization pond	Large earthen basins that are used for the treatment of wastewater by natural processes involving the use of both algae and bacteria.
Standard Industrial Classification (SIC) codes	Four-digit codes established by the Office of Management and Budget (OMB) to classify commercial and manufacturing establishments by the principal type of activity. Example: 4952 = municipal wastewater treatment plant.

State Revolving Fund (SRF)	Passed under the Amendments to the Clean Water Act (CWA) in 1987, the Clean Water State Revolving Fund (CWSRF) program replaced the long-running federal Construction Grants program. Under the CWSRF program, each state and Puerto Rico created revolving loan funds to provide independent and permanent sources of low-cost financing for a range of environmental water quality projects. As payments are made on loans, funds are recycled to fund additional water protection projects. While traditionally used to build or improve wastewater treatment plants, loans are used increasingly for agricultural, rural, and urban runoff control; wet weather flow control, including storm water and sewer overflows; alternative treatment technologies; small decentralized systems; brownfields remediation; and estuary improvements projects. Funds to establish SRF programs are provided through federal government grants (83 percent of total capitalization) and state matching funds (17 percent of total capitalization). To augment the federal and state capitalization, states may use the assets of the fund to support the issuance of bonds. At their option some states choose to transfer some Construction Grant funds into their CWSRF. From the beginning of capitalization in 1988 through 1999, federal contributions to the CWSRF program grew to $16.1 billion. Additional state match, state leveraged bonds, loan repayments and fund earnings increased CWSRF assets to over $30 billion since 1988.
Station (monitoring)	Specific location in a waterbody chosen to collect water samples for the measurement of water quality constituents. Stations are identified by an alphanumeric code identifying the agency source responsible for the collection of the data and a unique identifier code designating the location. Station measurements can be recorded from either discrete grab samples or continuous automated data acquisition systems. Station locations are typically sampled by state, federal or local agencies at periodic intervals (e.g., weekly, monthly, annual etc.) as part of a routine water quality monitoring program to track trends. Station locations can also be sampled only for a period of time needed to collect data for an intensive survey or a special monitoring program.
Stoichiometric ratio	Mass-balance-based ratio for nutrients, organic carbon, dry weight and algae (e.g., nitrogen-to-carbon ratio).
STORET	U.S. Environmental Protection Agency (EPA) national water quality database for STORage and RETrieval (STORET). Mainframe water quality database that includes millions of data records of physical, chemical, and biological data measured in waterbodies throughout the United States.

Storm runoff	Rainfall that does not evaporate or infiltrate into the ground because of impervious land surfaces or a soil infiltration rate lower than rainfall intensity, but instead flows onto adjacent land or waterbodies or is routed into a drain or sewer system.
Stream order	A ranking, developed by Straher, of the relative size of streams and rivers within a watershed based on the network of tributaries. The smallest, headwater stream is classified as an Order 1 stream. The stream formed by the confluence of two or more Order 1 streams is classified as an Order 2 stream. In the United States, the Mississippi River is an Order 10 river.
Streamflow	Discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term streamflow is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.
Surface waters	Water that is present above the substrate or soil surface. Usually refers to natural waterbodies such as streams, rivers, lakes and impoundments, and estuaries and coastal ocean.
Suspended solids or load	Organic and inorganic particles (solids/sediment) suspended in and carried by a fluid (water). The suspension is governed by the upward components of turbulence, currents, or colloidal suspension.
Tertiary treatment	Waste treatment processes designed to remove or alter the forms of nitrogen or phosphorus compounds contained in domestic sewage.
Total Kjeldahl Nitrogen (TKN)	The sumtotal of organic and ammonia nitrogen in a sample, determined by the Kjeldahl method.
Total Maximum Daily Load (TMDL)	The sum of the individual wasteload allocations and load allocations. A margin of safety is included with the two types of allocations so that any additional loading, regardless of source, would not produce a violation of water quality standards.
Total coliform bacteria	A particular group of bacteria that are used as indicators of possible sewage pollution.
Toxic substances	Those chemical substances, such as pesticides, plastics, heavy metals, detergent, solvent, or any other material that are poisonous, carcinogenic, or otherwise directly harmful to human health and biota the environment.
Transport of pollutants (in water)	Transport of pollutants in water involves two main process: (1) advection, resulting from the flow of water, and (2) diffusion, or transport due to turbulence mixing in the water.
Tributary	A lower order stream compared to a receiving waterbody. "Tributary to" indicates the largest stream into which the reported stream or tributary flows.

Trickling filter	A wastewater treatment process consisting of a bed of highly permeable medium (e.g., gravel or stones) to which microorganisms are attached and through which wastewater is percolated or trickled over the biofilm that forms on the media.
Turbidity	Measure of the amount of suspended material in water.
Ultimate Biochemical Oxygen Demand (UBOD or BOD_U)	Long term oxygen demand required to completely stabilize organic carbon and ammonia in wastewater or natural waters; defined as the sum of ultimate carbonaceous BOD and nitrogenous BOD.
Urban drainage	Water derived from surface runoff or shallow groundwater discharge from urban land use areas.
Waste load allocation (WLA)	The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution.
Wastewater	Usually refers to effluent from an industrial or municipal sewage treatment plant. See also domestic wastewater.
Wastewater treatment	Chemical, biological, and mechanical processes applied to an industrial or municipal discharge or to any other sources of contaminated water in order to remove, reduce, or neutralize contaminants prior to discharge to a receiving water.
Water pollution	Any condition of a waterbody that reflects unacceptable water quality or ecological conditions. Water pollution is usually the result of discharges of waste material from human activities into a waterbody.
Water quality	Numerical description of the biological, chemical, and physical conditions of a water body. It is a measure of a water body to support beneficial uses.
Water quality criteria (WQC)	Water quality criteria include both numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal.
Water quality standard (WQS)	A water quality standard is a law or regulation that consists of the beneficial designated use or uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular waterbody, and an antidegradation statement.
Watershed	*See drainage basin.*
Zooplankton	Very small animals (protozoans, crustaceans, fish embryos, insect larvae) that live in a waterbody and are moved passively by water currents and wave action.